

Lecture Module - Data Acquisition

ME3023 - Measurements in Mechanical Systems

Mechanical Engineering

Tennessee Technological University

Module 8 - Data Acquisition

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- Topic 1 - Analog to Digital Conversion
- Topic 2 -
- Topic 3 -

Topic 1 - Analog to Digital Conversion

- DAQ and Computer Storage
- Number Types
- Analog to Digital Conversion and DAQ
- Activity: ADC Resolution Calculation

DAQ and Computer Storage

A data acquisition system is the portion of a measurement system that quantifies and stores data. - Theory and Design of Mechanical Measurements

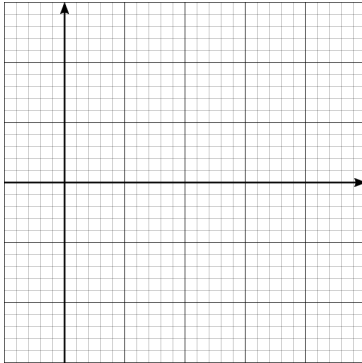


Image: T.Hill

DAQ and Computer Storage

Number Types

- Integers
 - Binary
 - Decimal
 - Hexadecimal
- Fixed Point
- Floating Point

Number Types

Binary	Decimal	Hexadecimal
0	0	0
1	1	1
10	2	2
11	3	3
100	4	4
	5	5
	6	6
	7	7
	8	8
	9	9
	10	A
	11	B

Binary	Decimal	Hexadecimal
	12	C
	13	D
	14	E
	15	F
	16	
	17	
	18	
	19	
	20	
	21	
	22	
	23	

some reference

Number Types

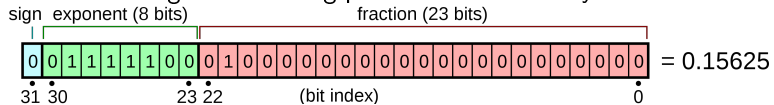
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some reference

Number Types

Standard storage of a floating point value in memory



Analog to Digital Conversion and DAQ

Analog to Digital Conversion and DAQ

Activity: ADC Resolution Calculation

Activity: ADC Resolution Calculation

Topic 2 -

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-
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Topic 3 -



